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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,721	10/28/2003	Jerrel C. Anderson	AD7065 USNA	5537

23906 7590 07/19/2006

E I DU PONT DE NEMOURS AND COMPANY
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WILMINGTON, DE 19805

EXAMINER

NAKARANI, DHIRAJLAL S

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/695,721	ANDERSON, JERREL C.	
	Examiner	Art Unit	
	D. S. Nakarani	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-41 is/are pending in the application.
- 4a) Of the above claim(s) 34-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-33 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/27/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 27, 2006 has been entered.

2. Claims 34-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on December 19, 2005.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 11-33 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11, line 1, the preamble "glass laminate" renders claims indefinite because after the preamble no layer of glass specified therefore the invention as claimed after preamble is not a glass laminate. Thus claims without specifying glass layer are indefinite and cannot be understood.

Claims 11 and 33, line 8, the phrase "ethylene/unsaturated" should read -- ethylene/ α,β -unsaturated acid -- since partial neutralization of acid groups of the copolymer of ethylene/ α,β -unsaturated acid does not result in ethylene/unsaturated copolymer ionomer rather it results in partially neutralized ethylene/ α,β -unsaturated acid copolymer ionomer.

Claim 12, lines 1-2, the phrase "at least one of the layers ----- prior to lamination" renders claim indefinite because it is not clear from the claim language the location of the primer in the laminate. If the primer is located between the thermoplastic sheet and the film, then claim is indefinite because the claim 12 depends from claim 11 which requires each surfaces of the film in direct contact the thermoplastic sheets. Thus if primer is present between the film and the thermoplastic sheets, then each surfaces of the film is not in direct contact with the thermoplastic sheets and renders claim indefinite.

Claim 13, lines 1-2, the phrase "the film is primed using a priming agent prior to lamination" renders claims 13-20, 22-24, 26 and 27 indefinite and confusing because claim 13 depends from claim 11 which requires that the each surfaces of the film is in direct contact with the thermoplastic polymer sheet. Therefore when the film is primed

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with the claimed priming agent, the each surfaces of the film is not in direct contact with the thermoplastic sheets as required. Thus claims are indefinite and confusing.

Claims 17 and 18, line 1, the phrase "The process of claim 16" renders claims indefinite since claim 16 is directed to the glass laminate and not to the process.

Claim 20, line 1, the phrase "The process of claim 19" renders claim indefinite since claim 19 is directed to the glass laminate and not to the process.

Claims 21-24, lines 1-2, the phrase "the 90⁰ peel strength of the laminate" renders claims indefinite in absence of specifying the substrate from which the laminate is peeled. It is not clear from the claim language how claimed peel strength is determined. Does applicants are trying to claim "claimed 90⁰ peel strength of thermoplastic polymer sheets from the film" or something else? Clarification and/or correction requested.

Claims 28-30, lines 1-2, the phrase "further comprising at least one layer" renders claims indefinite. The location of the claimed additional in the laminate is not clear.

6. Claims 11-27, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frost et al (U. S. Patent 5,932,329) in view of Bolton et al (U. S. Patent 4,668,574) with, as an evidence, Swofford (U. S. Patent 5,082,738).

Frost et al disclose a support film (4) with infrared (IR) light reflecting coating (3) sandwiched between two thermoplastic adhesive layers (5, 6) to form an interlayer. The thermoplastic adhesive such as polyurethane is disclosed. The thermoplastic

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polyurethane does not contain plasticizer. The multilayer interlayer is used to make glass laminate (fig and col. 2 line 24 to col. 3, line 28). Frost et al also disclose a thermoplastic adhesive such as polyvinyl butyral. Frost et al also suggest any thermoplastic adhesive known for glass laminate can be considered for the adhesive layer (col. 3, lines 20-25). Frost et al's support film (4) can be a polyethylene terephthalate film, polycarbonate film, acrylate film etc. (col. 2 lines 50-54). Frost et al fail to disclose claimed thermoplastic ethylene/unsaturated acid copolymer ionomer known in the glass laminate art.

Bolton et al disclose a glass laminate comprising glass/ionomer resin/plastic/ionomer resin/ glass structure. Bolton et al's plastic can be polycarbonate (col. 3, lines 42-45 and col. 4, lines 58-64). Bolton et al. disclose that thermoplastic polyurethane is expensive (col. 1 lines 47-51) and plasticized polyvinyl butyral adhesive with polycarbonate develops stress cracks (col. 1 lines 31-37). Bolton et al's ethylene/acrylic acid copolymer ionomer solves those problems. Bolton et al disclose priming surface of plastic such as polycarbonate and of glass with silane such as Z-6020 made by Dow Chemical prior to bonding to ionomer (Col. 6, lines 19-25 and col. 7, lines 1-4). The silane Z-6020 is an amino silane same as claimed in the present invention and it enhances adhesion of ionomer to glass, polycarbonate and to polyester as evidenced by Swofford at column 2, lines 18-35 and Example 1.

Therefore it would have been obvious to a person of ordinary skill in the art at the time of this invention made to utilize disclosure of Bolton et al in the invention of Frost et al to make multilayer interlayer and glass laminate using ionomer resin taught by Bolton

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et al to replace thermoplastic polyurethane and/or polyvinyl butyral adhesive and use silane Z-6020 as a primer to improve adhesion of ionomer to glass and to polyester and/or polycarbonate.

7. Claims 28-31 and 41 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

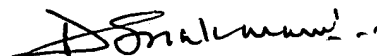
9. Receipt of Information Disclosure Statement filed April 27, 2006 is acknowledged and all recited references showing publication date have been made of record. The Document J under "Other Prior Art" on page 3 of PTO/SB/08B has been considered but crossed-out since it lacks publication date. This Document J will not be listed on patent issued from this application. If applicants are desirous to list this Document J on patent issued from this application, the Document J showing publication date with PTO/SB/08B listing the Document J should be provided.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. S. Nakarani whose telephone number is (571) 272-1512. The examiner can normally be reached on Tuesday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



D. S. Nakarani
Primary Examiner
Art Unit 1773

DSN
July 10, 2006.